

AMENDMENTS TO THE CLAIMS

Claim 1 (Currently Amended): A method for identifying a polypeptide peptide as capable of binding to a proteinaceous target protein, said method comprising

- a) displaying a library of polypeptides the peptide on the surface surfaces of a replicable display package packages, wherein said packages display polypeptides from the library of polypeptides;
- b) synthesizing a set of heterologous oligopeptides derived from the proteinaceous target protein on a solid phase,
- c) contacting the said library of polypeptides peptide on the surface of said package packages with the oligopeptides on said solid phase, and
- d) identifying whether binding of said packages to said oligopeptides occurs,  
wherein the said displayed polypeptide peptide on the surface of a said replicable display package packages is an immunoglobulin heavy chain, an immunoglobulin light chain, a heavy-light chain pair, a single chain antibody fragment, VH, a VL, a Fab, a Fv, a single chain Fv (scFv) or a disulfide-bridged Fv.

Claim 2 (Canceled)

Claim 3 (Currently Amended): A method for distinguishing between polypeptides peptides capable of binding to a proteinaceous antigen target protein and polypeptides peptides not having that capability, said method comprising

- a) displaying a library of candidate polypeptides peptides on the surfaces of replicable display packages,
- b) synthesizing a set of heterologous oligopeptides derived from the proteinaceous antigen target protein on a solid phase,
- c) contacting the said candidate polypeptides peptides on the surfaces of said packages with the said oligopeptides on said solid phase to permit binding by said candidate polypeptides peptides, and

d) washing the solid phase to remove unbound display packages, and thereby distinguish between polypeptides peptides capable of binding and polypeptides peptides not having that capability,

wherein the said displayed candidate polypeptides peptides are immunoglobulin heavy chains, immunoglobulin light chains, heavy-light chain pairs, single chain antibody fragments, VH domains, VL domains, Fab domains, Fv domains, single chain Fv (scFv) domains or di-sulfide-bridged Fv domains.

Claim 4 (Canceled)

Claim 5 (Currently amended): The method according to claim 1, whereby the said replicable display package is a phage particle.

Claim 6 (Currently amended): The method according to claim 1, whereby the said replicable display package is a bacterium, a yeast or a spore of a microorganism.

Claim 7 (Currently amended): The method according to claim 5, whereby the binding polypeptide peptide is displayed on the surface of the phage particle by insertion of a genetic sequence encoding said polypeptide in a gene encoding a surface protein of said phage particle.

Claim 8 (Currently amended): The method according to claim 1, whereby the displayed polypeptide peptide is a single chain antibody fragment.

Claim 9 (Currently amended): The method according to claim 1 whereby the displayed polypeptide peptide is an ScFv.

Claim 10 (Currently amended): The method according to claim 1, further comprising e) contacting said polypeptide peptide with a sample not containing said oligopeptides.

Claim 11-12 (Canceled)

Claim 13 (Currently amended): The method according to claim 3, whereby the said replicable display packages are phage particles.

Claim 14 (Currently amended): The method according to claim 3, whereby the said replicable display packages are bacteria, yeast or spores of a microorganism.

Claim 15 (Currently amended): The method according to claim 13, whereby the said candidate polypeptides peptides are displayed on the surface of the phage particles by insertion of genetic sequences encoding said polypeptides peptides in a gene encoding a surface protein of said phage particles.

Claim 16 (Currently amended): The method according to claim 3, whereby the said candidate polypeptides peptides are single chain antibody fragments.

Claim 17 (Currently amended): The method according to claim 3 whereby the candidate polypeptides peptides are ScFv domains.

Claim 18 (Currently amended): The method according to claim 3, further comprising e) eluting bound display packages and contacting them with a sample not containing said antigen said oligopeptides.

Claims 19-20 (Canceled).